

REMARKS

Applicants respectfully traverse and request reconsideration.

Applicants wish to thank the Examiner for the notice that claims 4-6 and 13-15 would be allowable and rewritten to overcome the rejections under 35 U.S.C. § 101 and that claims 18 and 19 would be allowable if rewritten or amended to overcome the rejections of § 101.

The specification has been objected to due to an informality on page 8 and page 4. The typographical errors have been corrected.

Claims 3 and 4 are objected to due to informalities. These claims have been amended to correct typographical errors.

Claims 1 through 21 stand rejected under 35 U.S.C. § 101 as allegedly being directed to non-statutory subject matter. Applicant's respectfully request withdrawal of this rejection as it is untimely. The Patent Office has reviewed the claims at least eight times given the number of office Actions and Final Office Actions sent since the case was filed and this is the first time that a § 101 rejection has been presented. Applicants respectfully submit that such rejections must be provided earlier on in the prosecution and certainly before approximately eight Office Actions have already approved the claims as being fully compliant with § 101. Applicants are confused as to why this rejection appears at this stage in the prosecution and respectfully request an explanation if the rejection is maintained.

In addition, Applicants respectfully submit that the rejection should be withdrawn because it appears to misapprehend the state of the law and the claim language. It is alleged that the claims are not proper because "the claims do not claim a useful, concrete, and tangible result." (Page 4 of Office Action). The rejection further states that "these claims are directed to filling only pixels in the portion of the primitive that is inside the screen region which is an

abstract entity.” (Office Action) Applicants respectfully submit that pixels are not an abstract entity but are picture elements that are displayed or, after further processing, displayed. Other useful, concrete and tangible results will be recognized by those of ordinary skill in the art.

The office action appears to focus on the last step of the independent claims as the basis for stating that the claims are directed to nonpatentable subject matter and also fail to address the other limitations of the claim. Applicants respectfully submit that looking at the last step of any claim is not the proper basis for rejecting the claim under section 101 but to the contrary, the claimed subject matter must be reviewed “as a whole”. Also, Applicants respectfully submit that the last step of claim 1 (and claim 9), “calculating new vertices of a tessellation triangle for said higher order triangular surface by evaluating said triangle-evaluation function using the vertices of the higher-order triangular surface and weighting values that are identified by the dual-index address” not only produces a tangible result, but the claim as a whole also produces information that represents a useful, tangible and concrete result.

The very case law in the Interim Guidelines supports Applicants’ position. In *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1357 (Fed. Cir. 1999), it is stated that a proper inquiry requires “an examination of the contested claims to see if the claimed subject matter as a whole is ... a ‘law of nature’ or an ‘abstract idea,’ or if the ... concept has been reduced to some practical application rendering it ‘useful’.” *Id.* In addition, MPEP §2106(IV)(C) states that “[I]n evaluating whether a claim meets the requirements of section 101, the claim must be considered as a whole to determine whether it is for a particular application of an abstract idea, natural phenomenon, or law of nature, rather than for an abstract idea, natural phenomenon, or law of nature.” Therefore, the claimed invention as a whole should yield a

useful, concrete, and tangible result, not merely the last step of a claim as recited by the Examiner.

In fact, in the *AT&T* case, the claim language was a method which was a single step method that stated:

generating a message record for an interchange call between an originating subscriber and a terminating subscriber, and including, in said message record a primary interchange carrier (PIC) indicator having a value which is a function of whether or not the interchange carrier associated with said terminating subscriber is a predetermined one of said interchange carriers.
Id. at 1354.

The Court held that simply generating a message record was patentable. The transformation of data alone can constitute a practical application of a mathematical algorithm formula or calculation because it produces a useful concrete and tangible result if the data “represents”, for example, useful information.

In the instant case, the new vertices that are calculated are done so using a dual index address and are actual data that is a function of evaluated vertices and weighting values that are identified by the dual index address. The new vertices as known may be used to generate pixels for display as the method is directed to tessellation that is “used to model a graphical surface”. The information being generated according to the method is useful data used for a useful purpose of, among other things, generating 3-D images for display. (See Specification).

For subject matter to be statutory, the claimed process must be limited to a practical application of the abstract idea or mathematical algorithm in the technological arts. *In re Alappat*, 33 F.3d 1526, 1543 (Fed. Cir. 1994). A claim is limited to a practical application when the method, as claimed, produces a concrete, tangible and useful result. *AT&T Corp.*, 172 F.3d at 1357. In *AT&T* (cited by the Examiner) the claims in question were directed to generating a message record for an interexchange call between an originating subscriber and a terminating

subscriber and adding a primary interexchange carrier (PIC) indicator to the message record. *Id.* at 1354. The court held that “[t]he PIC indicator represents information about the call recipient’s PIC, a useful, non-abstract result that facilitates differential billing of long-distance calls made by a ... subscriber.” (emphasis added) (*Id.* at 1358).

In *State Street*, the Federal Circuit reviewed a claim directed to a “data processing system for managing a financial services configuration of a portfolio established as a partnership, each partner being one of a plurality of funds, comprising” a variety of structural components including a “fifth means for processing data regarding aggregate year-end income, expenses, and capital gain or loss for the portfolio and each of the funds.” *Id.* at 1371-72. The Federal Circuit held that:

[t]he transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces ‘a useful, concrete and tangible result’ – a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades. *Id.* at 1373. (emphasis added)

Notably, the claim did not use the words “final share price” and the Court did not require that the tangible result, which was the “final share price”, be claimed. The mere fact that the *State Street* claim required “processing data” regarding expenses etc. was enough to be considered statutory subject matter. Thus, at least according to the Federal Circuit, a claim need not expressly recite a result that is useful, concrete and tangible in a last step in order to be considered statutory subject matter. The fact that the claimed process led to or allowed for a recorded, accepted and/or relied upon result was sufficient to establish compliance with 35 U.S.C. § 101.

As with the *AT&T* case, the *State Street* case involved claim language that included means for “processing data” and as such, was held to be statutory when the processing of the

data was merely a transformation of data. It was what the data "represented" that the Court held produced a useful concrete and tangible result namely the "final share price". It is notable that these words "final share price" did not appear in the claim. The processing of data as long as it is processed and the data represents useful information in some form, the claims are directed to patentable subject matter.

In the instant case, Applicants respectfully submit that pixels are not an abstract entity but are picture elements that are displayed. Claims (e.g., claim 18 and others) are also directed to a clipping system with span walkers and edge walkers which are clearly patentable. The rejection does not address these claims.

Applicants have also amended the claims consistent with the allowable subject matter to expedite prosecution and has canceled claims 1-4, 7, 8, 10, 12, 13, 16, 20 and 21 without prejudice. New claim 22 is claim 4 written in independent form. New claim 23 is claim 13 written in independent form.

Applicants respectfully submit that the claims are in condition for allowance and that a timely Notice of Allowance be issued in this case. The Examiner is invited to contact the below-listed attorney if the Examiner believes that a telephone conference will advance the prosecution of this application.

Respectfully submitted,

Dated: 8/1/07

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